

AD-A074 441

ARMY ENVIRONMENTAL HYGIENE AGENCY ABERDEEN PROVING GR--ETC F/G 6/20
TOPICAL HAZARD EVALUATION PROGRAM OF CANDIDATE INSECT REPELLENT--ETC(U)
MAY 79 A W SINGER, J G HARVEY

UNCLASSIFIED

NL

1 OF 1
AD
A074441



END
DATE
FILMED
10-79
DDC



ADA074441

12
5

LEVEL II

**UNITED STATES ARMY
ENVIRONMENTAL HYGIENE
AGENCY**

ABERDEEN PROVING GROUND, MD 21010

DDC FILE COPY

**A
E
H
A**

6 TOPICAL HAZARD EVALUATION PROGRAM OF CANDIDATE INSECT REPELLENTS
AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, AND AI3-37425a
U.S. DEPARTMENT OF AGRICULTURE PROPRIETARY CHEMICALS
STUDY NOS. 75-51-0118-79, 75-51-0122-79, 75-51-0124-79, 75-0125-79,
AND 75-51-0126-79
AUGUST 1978 - MAY 1979

numbers

9 Final rept.

11 May 79

10 Allen W. / Singer
John G. / Harvey

DDC
RECEIVED
SEP 28 1979
A

Approved for public release; distribution unlimited.

12 6 p.

79 09 27 020

038 150

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER 75-51-0118-79, 75-51-0122-79, and 75-51-0124-79 thru 75-51-0126-79	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Topical Hazard Evaluation Program of Candidate Insect Repellents AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a, US Depart- ment of Agriculture Proprietary Chemicals, Study Nos. 75-51-0118-79, 75-51-0122-79, 75-51-0124-79, 75-51-0125-79, and 75-51-0126-79, August 1978 - May 1979		5. TYPE OF REPORT & PERIOD COVERED Final, Aug 78 - May 79
7. AUTHOR(s) ALLEN W. SINGER, CPT, VC JOHN G. HARVEY		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS US Army Environmental Hygiene Agency Aberdeen Proving Ground, MD 21010		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS Commander US Army Health Services Command Fort Sam Houston, TX 78234		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE Aug 78 - May 79
		13. NUMBER OF PAGES 3
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) USDA Proprietary Chemicals AI3-37425a AI3-37413a Topical Hazard Evaluation AI3-37421a Candidate Repellents AI3-37423a skin irritation AI3-37424a		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Hazard evaluations of AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a were performed by means of laboratory studies using New Zealand White rabbits. The technical grade compounds caused moderate skin irritation.		



DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

CPT Singer/jg/AUTOVON
584-3980

17 AUG 1979

HSE-LT-T/WP

SUBJECT: Topical Hazard Evaluation Program of Candidate Insect Repellents
AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a, US
Department of Agriculture Proprietary Chemicals, Study Nos.
75-51-0118-79, 75-51-0122-79, 75-51-0124-79, 75-51-0125-79, and
75-51-0126-79, August 1978 - May 1979

Executive Secretary
Armed Forces Pest Control Board
Forest Glen Section, WRAMC
Washington, DC 20012

A summary of the pertinent findings and recommendations of the inclosed report follows:

Hazard evaluations of AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a were performed by means of laboratory studies using New Zealand White rabbits. The technical grade compounds caused moderate skin irritation. It is recommended that AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a, US Department of Agriculture proprietary compounds, not be approved for further testing as candidate insect repellents. However, if these compounds show pest repellent properties that are a significant improvement over currently available compounds, it is requested that they or their modified formulations be submitted for further toxicological evaluations in their proposed use formulations and/or concentration.

FOR THE COMMANDER:

1 Incl
as (5 cy)

CF:
HQDA (DASG-PSP)
Cdr, HSC (HSPA-P)
Dir, Advisory Ctr on TOX, NRC
Supt, AHS (HSA-IPM)
USDA, ARS-Southern Region
USDA, ARS (Dr. Terrence McGovern)

Brendan E. Joyce

BRENDAN E. JOYCE, Ph.D.
LTC(P), MSC
Director, Laboratory Services

Accession For	
NIIS	GR&I
DDC TAB	
Unannounced	
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or special
A	



DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

HSE-LT-T/WP

TOPICAL HAZARD EVALUATION PROGRAM OF CANDIDATE INSECT REPELLENTS
AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, AND AI3-37425a
US DEPARTMENT OF AGRICULTURE PROPRIETARY CHEMICALS
STUDY NOS. 75-51-0118-79, 75-51-0122-79, 75-51-0124-79, 75-0125-79,
AND 75-51-0126-79
AUGUST 1978 - MAY 1979

1. AUTHORITY.

a. Letter, US Department of Agriculture - Agricultural Research Service, Southern Region, Insects Affecting Man and Animal Research Laboratory, Gainesville, Florida, 9 August 1978.

b. Memorandum of Understanding between the US Army Environmental Hygiene Agency; the US Army Health Services Command; the Department of the Army, Office of The Surgeon General; the Armed Forces Pest Control Board; and the US Department of Agriculture, Agricultural Research, Science and Education Administration; titled, Coordination of Biological and Toxicological Testing of Pesticides, effective 23 January 1979.

2. REFERENCE. Toxicology Division Procedural Guide, USAEHA, 1972, revised 1976.

3. PURPOSE. The purpose of this report is to provide guidance for further entomological testing of the candidate insect repellents AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a.

4. SUMMARY OF FINDINGS. Hazard evaluations of the candidate repellents AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a, USDA proprietary compounds, were conducted by this Agency using New Zealand White rabbits for a skin irritation study. A tabular presentation of animal toxicity data developed in this Agency follows:*†

* In conducting the studies described in this report, the investigators adhered to the "Guide for the Care and Use of Laboratory Animals," US Department of Health, Education, and Welfare Publication No. (NIH) 74-23, revised 1978.

† The experiments reported herein were performed in animal facilities fully accredited by the American Association for the Accreditation of Laboratory Animal Care.

Approved for public release; distribution unlimited.

Topical Hazard Eval Study Nos. 75-51-0118-79, 75-51-0122-79, 75-51-0124-79, 75-51-0125-79, and 75-51-0126-79, Aug 78-May 79

TABULAR PRESENTATION OF DATA

Test	Results	Interpretation
------	---------	----------------

SKIN IRRITATION STUDIES

Rabbits

Single 24-hour application to intact and abraded skin of New Zealand White rabbits. Compounds AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a produced moderate primary irritation on both intact and abraded skin of all rabbits. USAEHA Category III (ref Appendix)

0.5 ml of technical grade compound applied to each of six rabbits.

5. CONCLUSION. The candidate repellents AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a have potential for causing moderate primary skin irritation to intact and abraded skin and do not qualify as nonhazardous insect repellents.

6. RECOMMENDATIONS. Under the provisions of the Memorandum of Understanding (paragraph 1b), it is recommended that AI3-37413a, AI3-37421a, AI3-37423a, AI3-37424a, and AI3-37425a, USDA proprietary compounds, not be approved as candidate insect repellents. If these compounds should show pest repellent properties which are a significant improvement over currently available compounds, it is requested that they be resubmitted in their proposed use formulations and/or concentrations.

Allen W. Singer

ALLEN W. SINGER
CPT, VC

Laboratory Veterinary Officer
Toxicology Division

John G. Harvey

JOHN G. HARVEY
Biological Lab Technician
Toxicology Division

APPROVED:

Arthur H. McCreesh

ARTHUR H. MCCREESH, Ph.D.
Chief, Toxicology Division

Topical Hazard Eval Study Nos. 75-51-0188-79, 75-51-0122-79, 75-51-0124-79,
75-51-0125-79, and 75-51-0126-79, Aug 78-May 79

APPENDIX

TOPICAL HAZARD EVALUATION PROGRAM DEFINITIONS OF CATEGORIES OF COMPOUNDS BEING CONSIDERED FOR ACUTE SKIN APPLICATION

CATEGORY I - Compounds producing no primary irritation of the intact skin or no greater than mild primary irritation of the skin surrounding an abrasion. (INTERPRETATION: No restriction for acute application to the human skin.)

CATEGORY II - Compounds producing mild primary irritation of the intact skin and the skin surrounding an abrasion. (INTERPRETATION: Should be used only on human skin found by examination to have no abrasions or may be used as a clothing impregnant.)

CATEGORY III - Compounds producing moderate primary irritation of the intact skin and the skin surrounding an abrasion. (INTERPRETATION: Should not be used directly on the skin without a prophetic patch test having been conducted on humans to determine irritation potential to human skin. May be used without patch testing, with extreme caution, as clothing impregnants. Compound should be resubmitted in the form and at the intended use concentration so that its irritation potential can be reexamined using other test techniques on animals.)

CATEGORY IV - Compounds producing moderate to severe primary irritation of the intact skin and of the skin surrounding an abrasion and, in addition, producing necrosis, vesiculation, and/or eschars. (INTERPRETATION: Should be resubmitted for testing in the form and at the intended use concentration. Upon resubmission, its irritation potential will be reexamined using other test techniques on animals, prior to possible prophetic patch testing in humans, at concentrations which have been shown not to produce primary irritation in animals.)

CATEGORY V - Compounds impossible to classify because of staining of the skin or other masking effects owing to physical properties of the compound. (INTERPRETATION: Not suitable for use on humans.)

EYE CATEGORIES:

A. Compounds noninjurious to the eye. INTERPRETATION: Irritation of human eyes is not expected if the compound should accidentally get into the eyes, provided it is washed out as soon as possible.

B. Compounds producing mild injury to the cornea. INTERPRETATION: Should be used with caution around the eyes.

C. Compounds producing mild injury to the cornea, and in addition some injury to the conjunctiva. INTERPRETATION: Should be used with caution around the eyes and mucosa.

D. Compounds producing moderate injury to the cornea. INTERPRETATION: Should be used with extreme caution around the eyes.

E. Compounds producing moderate injury to the cornea, and in addition producing some injury to the conjunctiva. INTERPRETATION: Should be used with extreme caution around the eyes and mucosa.

F. Compounds producing severe injury to the cornea and to the conjunctiva. INTERPRETATION: Should be used with extreme caution. It is recommended that use be restricted to areas other than the face.